

**Vaughn Thibodeau & Sons
Penobscot County
Bangor, Maine
A-776-71-D-R/A (SM)**

**Departmental
Findings of Fact and Order
Air Emission License**

After review of the air emission license application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

Vaughn Thibodeau & Sons located in Bangor, Maine has applied to renew and amend their Air Emission License, permitting the operation of their ready-mix concrete plant.

Vaughn Thibodeau & Sons has requested an amendment to their license in order to include a portable hot mix asphalt batch plant and diesel generator.

B. The following is a list of equipment and where it is used:

Asphalt Batch Plant:

<u>Equipment</u>	Process Rate	Design Capacity	Fuel Type & Firing Rate	Manufacturer	Control Device
Kiln #1 **	100 tph	35 MMBtu/hr	#2 fuel, 0.5%	Cedarapids	baghouse
Boiler #2 *	--	0.9 MMBtu/hr	#2 fuel, 0.5%	Hyway	none
Gen #1 **	--	4.5 MMBtu/hr	Diesel, 0.05%	GenSet 575 kwh	none

Concrete Batch Plant

<u>Equipment</u>	Process Rate	Design Capacity	Fuel Type & Firing Rate	Manufacturer	Control Device
Batch Plant	100 cubic yards/hour	--	--	Erie	baghouse
Boiler #1 *	--	0.9 MMBtu/hr	#2 fuel, 0.5%	Heat-Tec	none

* units considered insignificant activities per Appendix B of Chapter 115

** new equipment previously not listed in the air emissions license

C. Application Classification

The application for Vaughn Thibodeau & Sons includes the licensing of new equipment, therefore the license is considered to be an amendment along with a renewal of current licensed emissions units. The amendment portion of the license includes a new asphalt batch plant along with a diesel generator.

The modification of a minor source is considered a major modification based on whether or not expected emission increases exceed the “Significant Emission Levels” as defined in the Department’s regulations. The emission increases are determined by subtracting the current licensed emissions preceding the modification from the maximum future licensed allowed emissions, as follows:

<u>Pollutant</u>	<u>Current License (TPY)</u>	<u>Future License (TPY)</u>	<u>Net Change (TPY)</u>	<u>Sig. Level</u>
PM	0.7	5.9	5.2	100
PM ₁₀	0.7	5.9	5.2	100
SO ₂	2.1	8.0	5.9	100
NO _x	2.9	24.7	21.8	100
CO	0.2	35.3	35.1	100
VOC	0.1	4.1	4.0	50

This modification is determined to be a minor modification and has been processed as such.

II. **BEST PRACTICAL TREATMENT**

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Department regulations.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in Chapter 100 of the Air Regulations. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

New Equipment

B. Asphalt Batch Plant

Vaughn Thibodeau & Sons is requesting to install a portable asphalt batch plant (Kiln #1). The asphalt batch plant was manufactured in 1970 and is therefore not subject to EPA New Source Performance Standards (NSPS) Subpart I for Hot Mix Asphalt Facilities manufactured after June 11, 1973.

The asphalt batch plant fires #2 fuel oil, with a sulfur content not to exceed 0.5% weight. Fuel use shall not exceed 400,000 gal/year based on a 12 month rolling total.

To meet the requirements of Best Available Control Technology (BACT) for the control of particulate matter (PM) emissions, the asphalt batch plant kiln will vent to a baghouse. Opacity from the asphalt batch plant baghouse is limited to no greater than 20% on a six (6) minute block average basis, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period.

Based on the hot mix asphalt processing rates, the average emission rate from the asphalt plant baghouse shall be limited to 0.03 grs/dscf .

The performance of the baghouses shall be constantly monitored by either one of the following at all times the kiln is operating:

1. PM detector – when the detector signals excessive PM concentrations in the exhaust stream, Vaughn Thibodeau & Sons shall take corrective action within 24 hours, or immediately if opacity exceeds 20%.
2. Personnel with a current EPA Method 9 visible emissions certification – when the opacity exceeds 20%, the hot mix asphalt plant is operating with insufficient control and corrective action shall be taken immediately.

General process emissions from the asphalt batch plant shall be controlled so as to prevent visible emissions in excess of 20% opacity on a six (6) minute block average basis except for no more than one (1) six (6) minute block average in a 1-hour period.

Petroleum contaminated soil processing cannot exceed 10,000 cubic yards per year without prior approval from the Department. The facility shall only process soils contaminated with gasoline or #2 fuel without prior approval from the Department.

C. Diesel Unit #1

The Diesel unit is utilized primarily to provide electrical power to the asphalt plant. Total fuel use in the diesel unit shall not exceed 50,000 gal/year of diesel fuel, based on a 12 month rolling total, with a maximum sulfur content not to exceed 0.05% by weight and is therefore considered to be receiving BACT.

A summary of the BACT analysis for Generator #1 is the following:

- The total fuel use for the generator shall not exceed 50,000 gal/year of diesel fuel, based on a 12 month rolling total, with a maximum sulfur content not to exceed 0.05% by weight.
- Chapter 106 regulates fuel sulfur content, however in this case a BACT analysis for SO₂ determined a more stringent limit of 0.05% was appropriate and shall be used.
- Chapter 103 regulates PM emission limits. The PM₁₀ limits are derived from the PM limits.
- NO_x, CO, and VOC emission limits are based upon AP-42 data dated 10/96.

Visible emissions from the generator shall each not exceed 30% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period.

Existing Equipment

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

D. Concrete Batch Plant

To meet the requirements of BPT for control of particulate matter (PM) emissions from the cement silo, particulate emissions shall be vented through a baghouse maintained for 99% removal efficiency. Visible emissions from the cement silo baghouse is limited to no greater than 10% opacity on a six (6) minute block average basis except for no more than one (1) six (6) minute block average in a 1-hour period. The facility shall take corrective action if visible emissions from the baghouse exceed 5% opacity.

All components of the concrete batch plant shall be maintained so as to prevent PM leaks. Visible emissions from concrete batching operations shall not exceed

20% opacity on a six (6) minute block average basis except for no more than one (1) six (6) minute block average in a 1-hour period.

E. Stock Piles and Roadways

Visible emissions from a fugitive emission source shall not exceed an opacity of 20 percent, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20 percent in any one (1) hour.

F. Facility Emissions and Fuel Use Caps

Facility emissions are based on an annual fuel limit of 400,000 gallons of fuel oil for the asphalt batch plant and 50,000 gallons per year of diesel fuel for the generator.

Total Allowable Annual Ton/Year Emissions for the Facility
(used to calculate the annual license fee)

<u>Equipment</u>	<u>PM</u>	<u>PM₁₀</u>	<u>SO₂</u>	<u>NO_x</u>	<u>CO</u>	<u>VOC</u>
Asphalt Batch Plant	5.5	5.5	7.0	9.6	32.0	2.9
Diesel Engine #1	0.4	0.4	1.0	15.1	3.3	1.2
TOTALS	5.9	5.9	8.0	24.7	35.3	4.1

III. AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a renewal source shall be determined on a case-by-case basis. Modeling and monitoring are not required of a renewal if the total emissions of any pollutant released do not exceed the following:

<u>Pollutant</u>	<u>TPY</u>
PM	25
PM ₁₀	25
SO ₂	50
NO _x	100
CO	250

Based on the above total facility emissions, Vaughn Thibodeau & Sons is below the emissions level required for modeling and monitoring.

ORDER

Based on the above Findings and subject to conditions listed below the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-776-71-D-R/A (SM), subject to the following conditions:

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions. [MEDEP Chapter 115]
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [MEDEP Chapter 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [MEDEP Chapter 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [MEDEP Chapter 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. § 353. [MEDEP Chapter 115]

- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [MEDEP Chapter 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [MEDEP Chapter 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [MEDEP Chapter 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [MEDEP Chapter 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [MEDEP Chapter 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
 - A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 - 1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 - 2. pursuant to any other requirement of this license to perform stack testing.
 - B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - C. submit a written report to the Department within thirty (30) days from date of test completion.[MEDEP Chapter 115]

- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
 - B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
 - C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
- [MEDEP Chapter 115]
- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [MEDEP Chapter 115]
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [MEDEP Chapter 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [MEDEP Chapter 115]

SPECIFIC CONDITIONS

(16) Asphalt Plant

- A. Emissions from the hot mix asphalt plant shall vent to a baghouse, and all components of the asphalt plant shall be maintained so as to prevent PM leaks. [MEDEP Chapter 115, BPT]
- B. The performance of the baghouse shall be constantly monitored by either one of the following at all times the kiln is operating: [MEDEP Chapter 115, BPT]:
 1. PM detector – when the detector signals excessive PM concentrations in the exhaust stream, Vaughn Thibodeau & Sons shall take corrective action within 24 hours, or immediately if opacity exceeds 20%.
 2. Personnel with a current EPA Method 9 visible emissions certification – when the opacity exceeds 20%, the asphalt plant is operating with insufficient control and corrective action shall be taken immediately.
- C. To document maintenance of the baghouse, the license shall keep a maintenance log recording the date and location of all bag failures as well as all routine maintenance. The maintenance log shall be kept on-site at the asphalt plant location. [MEDEP Chapter 115, BPT]
- D. Opacity from the baghouse is limited to no greater than 20% on a six (6) minute block average basis, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period. [MEDEP Chapter 101]
- E. General process emissions from the asphalt plant shall be controlled so as to prevent visible emissions in excess of 20% opacity on a six (6) minute block average basis except for no more than one (1) six (6) minute block average in a 1-hour period. [MEDEP Chapter 101]
- F. Fuel use records and receipts for the asphalt kiln shall be maintained for at least six years and made available to the Department upon request. The facility will maintain a log showing 12-month rolling total fuel use and maintain fuel receipts to verify % sulfur content and fuel type. [MEDEP Chapter 115, BPT]
- G. Vaughn Thibodeau & Sons shall be limited to the use of 400,000 gal/year of #2 fuel oil (12 month rolling total), with a sulfur content not to exceed 0.5% in the kiln. Emissions from the baghouse shall not exceed the following [MEDEP Chapter 115, BPT]:

<u>Pollutant</u>	<u>grs/dscf</u>	<u>lb/hr</u>
PM	0.03	6.9
PM ₁₀	-	6.9
SO ₂	-	9.5
NO _x	-	12.0
CO	-	40.0
VOC	-	3.6

- H. The licensee shall not process more than 10,000 cubic yards of petroleum contaminated soils per year without prior approval from the Department. Processing of petroleum contaminated soils may require a solid waste processing facility license under 06-096 CMR409. The material shall be handled in accordance with the requirements of the Bureau of Remediation and Waste Management. [MEDEP Chapter 115, BPT]
 - I. Without prior approval from the Department, the licensee shall only process soils contaminated with gasoline and #2 fuel oil. [MEDEP Chapter 115, BPT]
 - J. The licensee shall not process contaminated soils which are classified as hazardous waste or which have unknown contaminants. [MEDEP Chapter 115, BPT]
 - K. When processing petroleum contaminated soils, the licensee shall maintain records which specify the quantity and type of contaminant in the soil, the origin of the soil and the contaminant, and the characterization of the contaminated soil. In addition when processing contaminated soil, the licensee shall maintain records of processing temperature, asphalt feed rate, fuel use, soil moisture content, and dryer throughput, on an hourly basis. [MEDEP Chapter 115, BPT]
- (17) **Concrete Batch Plant**
- A. Particulate emissions from the cement silo shall be vented through a baghouse and all components of the batch plant shall be maintained so as to prevent PM leaks. [MEDEP Chapter 115, BPT]
 - B. To document maintenance of the cement silo baghouse, the licensee shall keep a maintenance log recording the date and location of all bag failures as well as all routine maintenance. The maintenance log shall be kept on-site at the concrete batch plant location. [MEDEP Chapter 115, BPT]
 - C. Opacity from the cement silo baghouse is limited to no greater than 10% on a 6 minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period. Vaughn Thibodeau & Sons shall take corrective action if visible emissions from the baghouse exceed 5% opacity. [MEDEP Chapter 101]
 - D. PM emissions from the concrete batching operation shall be controlled so as to prevent visible emissions in excess of 20% opacity on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period. [MEDEP Chapter 101]
- (18) **Diesel Unit**
- A. Total fuel use for the diesel generator shall not exceed 50,000 gal/yr of diesel fuel with a maximum sulfur content not to exceed 0.05% by weight. Compliance shall be based on fuel receipts from the supplier showing the quantity of fuel delivered and the percent sulfur of the fuel. Records of annual

fuel use shall be kept on a 12-month rolling total basis. [MEDEP Chapter 115, BPT]

B. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Diesel Generator #1	PM	0.12	MEDEP, Chapter 103, Section 2(B)(1)(a)

C. Emissions shall not exceed the following: [MEDEP Chapter 115, BPT]:

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Diesel Gen #1	0.5	0.5	1.3	19.8	4.3	1.6

D. Visible emissions from the diesel generator shall not exceed 30% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period. [MEDEP Chapter 101]

(19) **Stockpiles and Roadways**

Visible emissions from a fugitive emission source shall not exceed an opacity of 20 percent, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20 percent in any one (1) hour. [MEDEP Chapter 101]

(20) **Equipment Relocation** [MEDEP Chapter 115, BPT]

A. Vaughn Thibodeau & Sons shall notify the Bureau of Air Quality, by a written notification at least 10 days in advance, prior to relocation of any equipment carried on this license. The notification shall be sent to:

Attn: Relocation Notice
Maine DEP
Bureau of Air Quality
17 State House Station
Augusta, ME 04333-0017

The notification shall include the address of the equipment's new location and the license number pertaining to the relocated equipment.

- B. Written notification shall also be made to the municipality where the equipment will be relocated, except in the case of an unorganized territory where notification will be made to the respective county commissioners.

If less than 10 days is necessary for notification, contact the regional inspector by phone to notify of the upcoming relocation. This phone contact with the regional inspector shall be followed up with a written notice of relocation with the appropriate information.

- (21) Vaughn Thibodeau & Sons shall keep a copy of this Order on site, and have the operator(s) be familiar with the terms of this Order. [MEDEP Chapter 115, BPT]
- (22) Vaughn Thibodeau & Sons shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (Title 38 MRSA §605-C).
- (23) **Payment of Fees**
Vaughn Thibodeau & Sons shall pay the annual air emission license fee within 30 days of **October 30th** of each year. Pursuant to 38 MRSA §353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under 38 MRSA §341-D, subsection 3.

DONE AND DATED IN AUGUSTA, MAINE THIS _____ DAY OF _____ 2004.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAWN R. GALLAGHER, COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: January 21, 2004

Date of application acceptance: February 4, 2004

Date filed with the Board of Environmental Protection: _____

This Order prepared by Edwin Cousins, Bureau of Air Quality.